nortem

NSSFMV Series
Explosion protected floodlight

IM0086 Ver. 2
08/2012

Operating Instructions

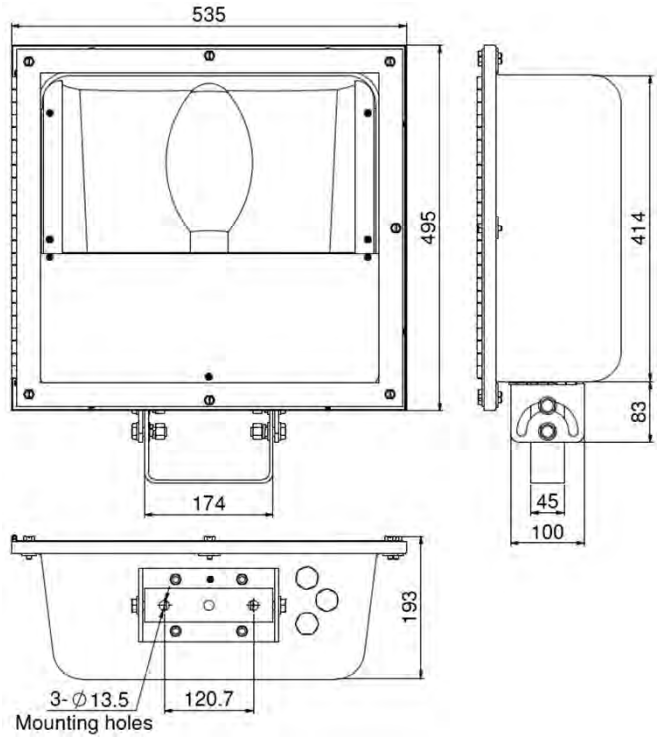
COOPER Crouse-Hinds

Cooper Crouse-Hinds

Cooper Electronic Technologies (Shanghai) Co., Ltd.

No. 955 Shengli Road,
East Area of Zhangjiang High-Tech Park,
Shanghai 201201
China

1. Dimensions



2. Technical data

Hazardous area specification	
Type of protection:	Ex nR (Restricted breathing) Dust protected enclosure
ATEX classification:	Group II Category 3 G 2 D
Certification Marking:	ATEX: II2 G Ex nR II T… II2 D Ex tb IIIC T…ºC IP66 IECEx: Ex nR IIC T… Gc Ex tb IIIC T…ºC IP66
Ambient temperature:	-45ºC~+55ºC
Temperature class:	Refer to Type configuration
EC type examination Certification No.:	LCIE 11 ATEX 1014 X LCIE 11 ATEX 3101 X
IECEx Certificate No.:	IECEx CQM 12.0004X
Degree of protection:	IP 66 acc. to EN60529/IEC60529
Approval of the production Quality assurance:	Baseefa ATEX 5952
Enclosure specification	
Material of enclosure:	Stainless steel
Material of glass:	Tempered glass
Mounting plate:	Stainless steel
Fasteners:	All external fasteners stainless steel
Installation:	Mounting bracket
Dimensions:	See dimension drawing
Weight:	Refer to Type Configuration.

Entry specification

Direct entry: 2×M20×1.5 or 2×M25×1.5 cable entry. Unused entry is fitted with an certified stopping plug.

Electrical specification	
Wattage:	150W/250W/400W
Voltage:	220V/230V/240V 50Hz/60Hz
Lampholder:	E40
Insulation class:	I acc. to IEC60598
Terminals capacity:	3 or 6 core conductor/cable Solid：0.5~6mm^2 Flexible：0.5~4mm^2/0.5~6mm^2
Lamp:	High pressure Sodium/Metal Halide

3. Conformity with standards

This explosion protection floodlight meet the requirements of IEC/EN 60079-0, IEC/EN60079-15, IEC/EN 60079-31.

It also complies with the EC Directives for “Apparatus and protective system for use in explosion atmospheres”(94/9/EC).
It has been designed, manufactured and tested in accordance to the state of the art and according to ISO 9001:2000.

The luminaires are suitable for use in explosive atmospheres, Zone2 according to IEC/EN 60079-10-1 and dust area Zone21 and Zone22 according to IEC/EN 60079-10-2.

4. Safety Instructions ⚠

This product should be installed, inspected, and maintained by a qualified electrician only, in accordance with national regulation, including the relevant standard and, where applicable, in acc. with IEC 60079-17 on electrical apparatus for explosive atmospheres.

The national safety rules and regulations for prevention of accidents and the following safety instructions in these operating instructions, will have to be observed!

- ***The floodlight must not be operated in Zone0,Zone1 and Zone20!***
- ***When using in zone 22, the requirements of IEC/EN 60079-14 relating to temperature must be observed. The indicated surface temperatures in table are not related to a layers above 5mm thickness.***
- ***After de-energizing, delay 15 minutes before opening,***
- ***Do not open when an explosive dust atmosphere is present.***
- ***Do not install where the marked operating temperature exceed the ignition temperature of the hazardous atmosphere.***
- ***Do not operate in ambient temperatures above those indicated on the floodlight nameplate.***
- ***The floodlight shall be operated as intended and only in undamaged and perfect conditions!***
- ***Keep tightly closed when in operation!***
- ***The technical data indicated on the floodlight are to be bserved!***
- ***Change of the design and modifications to the floodlight are not permitted!***
- ***Multiple, short-term switching must be observed!***
- ***Only genuine Cooper Crouse-Hinds spare parts may be used for replacement!***
- ***Repairs that affect the explosion protection, may only be carried out by Cooper Crouse-Hinds or qualified electrician!***
- ***Do not keep these operating instructions inside the floodlight during operation!***

Cable gland recommend

Entry size	Part No.	Cable size	Torque (Nm)	
			screw-in enclosure	For cable
M20×1.5	CAP816609	8.5-16	20	20
M25×1.5	CAP816709	12-21	30	30

Mounting the selected cable glands) acc. type and dimensions of the main connection cable. Following their manufacturer instructions.

5. Field of Application

The floodlight utilizes Ex nR (Restricted breathing) that means an enclosure is sufficiently well sealed to limit the entry of flammable gas to below explosive concentration. That means it restricts vapors and gases from entering inside the floodlight.) protection and IP66 sealing making it suitable for use for potentially explosive atmospheres in Zone2 and Zone21/Zone22 hazardous areas in indoors and outdoors in Marine and Wet locations, where moisture, dirt, corrosion, vibration and Rough usage may be present.

Application ambient temperature is -45ºC~+55ºC. Refer to the floodlight nameplate for specific classification information, maximum ambient temperature suitability and corresponding operating temperature (T- Number).

The enclosure materials used, including any external metal parts, are high quality materials that ensure a corrosion resistance and resistance to chemical substances according to the requirements for use in a “normal“ industrial atmosphere. In case of use in an extremely aggressive atmospheres, please refer to manufacture.

6. Type configuration

Std. Catalog No.	Watt (W)	Lamp Type	Lamp Shape	Voltage	T Class (Gas) +40ºC	+50ºC	+55ºC	T ℃ (Dust) +40ºC	+50ºC	+55ºC	Weight (Kg)	Note:
NSSFMVSY150/****	150	HPS	T/E	220V 50Hz 230V 50Hz 240V 50Hz 220V 60Hz 230V 60Hz 240V 60Hz	T4	T3	T3	125	135	140	12	HPS=high pressure sodium vapour lamp MH=high pressure metal halide T=Tube shape E=Bulb shape
NSSFMVMY150/****	150	MH	T/E		T4	T3	T3	125	135	140	12	
NSSFMVSY250/****	250	HPS	T/E		T3	T3	T3	160	170	175	13	
NSSFMVMY250/****	250	MH	T/E		T3	T3	T3	160	170	175	13	
NSSFMVSY400/****	400	HPS	T/E		T3	T2	/	195	205	/	15	
NSSFMVMY400/****	400	MH	T/E		T3	T2	/	195	205	/	15	
NSSFMVMY400H/****	400	MH	T/E		T3	T2	/	195	205	/	15	

Fig. 1 Mounting the bracket

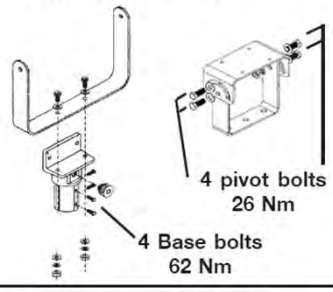


Fig. 2 Installing connection cable

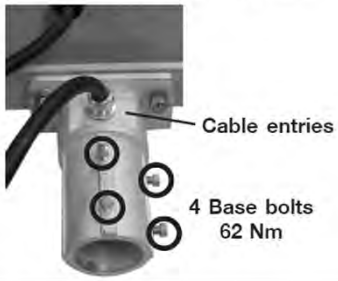


Fig. 3 Mounting wall bracket

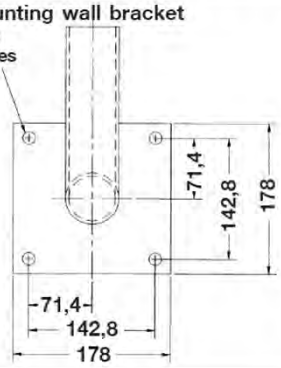
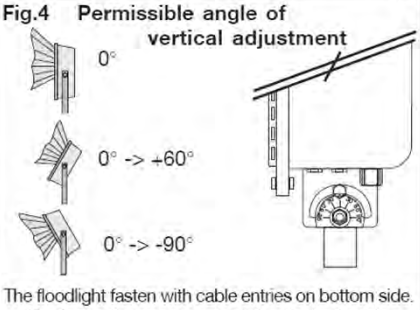


Fig.4 Permissible angle of vertical adjustment



The floodlight fasten with cable entries on bottom side.
Vertical adjustment, only at the desired angle (-90° to +60°).

7. Installation

7.1 General

The respective national regulations IEC/EN 60079-14 as well as the general rules of engineering which apply to the installation and operation of explosion protected apparatus will have to be observed!

The improper installation and operation may result in the explosion protection and invalidation of the guarantee.

7.2 Mounting the floodlight

7.2.1 Mounting the bracket

Only use the accompanying mounting bracket! Use M12 bolts, plain washer and spring washer to securely fasten the Trunnion bracket to a suitable base with sufficient load-bearing capacity. See Fig.1 and Fig.2 for detail.

7.2.2 Pole mounting

The pole adapter is not included in the lamp's scope of delivery and is available as an accessory. Screw the floodlight mounting bracket to the pole adapter as shown in Fig.1.
The pole adapter can be mounted onto a 2" pipe. Secure the pole adapter using the four clamping screws (62Nm,see Fig.2).
The connection cable may not be damaged in the process. An explosion protected cable gland(not included in the scope of delivery)can be screwed into the pole adapter, enabling the pole to be used for cable routing (see Fig.2).
The connection cable must not be damaged in the process.

7.2.3 Wall bracket mounting

The wall bracket is not included in the lamp's scope of delivery and is available as an accessory.
Use appropriate screws, spring washers and grommets to secure the wall bracket to a suitable wall at the four drilled holes (see Fig.3).
Slide the floodlight with the pole adapter onto the pipe of the wall bracket and secure with the four clamping screws (max.62Nm).

7.2.4 Vertical adjustment of floodlight

Loosen the two pivot bolts on the floodlight yoke to position floodlight at the desired tilt angle (within the acceptable aiming range limits). See Fig.4. Re-tighten the adjustment screws(26Nm).

The lamp must not be illuminated when at a distance of less than 0.5m from inflammable material.

7.3 Cable entries/blanking plugs

The "restricted breathing(Ex nR)" properties must be preserved when, for example, using cables and wires of sufficient diameter(see also IEC/EN 60079-14). Unused holes shall be closed with certified blanking plug in order to establish the protection category. The cable glands and blanking plugs must be used in compliance with IEC 60079-31. The authoritative mounting guideline for the cable glands used must be observed. Mounting the selected cable entries(cable glands) acc. type and dimensions of the main connection cable and following their manufacturer instructions. The cable glands and blanking plugs should be at least Ex nR certified, and should be also Ex tb certified if the whole product is Ex tb certified also.

If the cable glands included in the scope of delivery are replaced with other cable glands, the "nR" properties must be checked before putting into operation.

Restricted breathing test may be carried out as per section 11.

7.4 Opening/closing the floodlight

7.4.1 General

The opening of floodlight always shall be without voltage!
All gasket seals must be clean and undamaged before closing the floodlight.
Make sure the floodlight is well closed before operation!

Unscrew all screws in the glass frame and lift the protective glass to one side.
Unscrew the terminal compartment cover and remove the terminal compartment cover.
Carry out the steps in reverse order to close the floodlight and Check all screws to ensure a secure fit (Torque for screws: 2.5 Nm).

7.5 Electrical connection

The electrical connection of the lamp must only be established by qualified electricians.
Make sure the supply voltage is the same as the luminaire voltage!
Use proper supply wiring as specified on the nameplate of the luminaire and in this instructions!
Excessive tightening may affect or damage the connection.

Only heat resistant cable according to the data on the type label may be used for the electrical installation!
Connect cable according to the terminal numbering and circuit diagram.
The conductors shall be connected with special care in order to maintain the explosion category. Leads connected to the terminals shall be insulated for the appropriate voltage and this insulation shall extend to within 1mm of the metal of the terminal throat. The conductor itself shall not be damaged. The connectible min. and max. conductor cross-sections shall be observed (see technical data). All terminal screws, used and unused, shall be tightened down (Torque for terminal screws: 1.2~2 Nm for MK/6).
Main connection: See wiring diagram.

7.6 Lamp mounting

Only must be mounting appropriated lamps for the supplied floodlight see indications on the nameplate of the floodlight and in this instructions!

See section 7.4 for notes on opening and closing the lamp. The lamp must be screwed tightly into the lampholder.
Ensure it is screwed in fully so that no sparks or other unauthorized operating states may occur.
Protect the glass on the lamp from breaking when screwing in.

Fig.5 Opening floodlight

Torque cover screws 2.5 Nm

Fig.6 Wiring Diagram(HPS/MH)

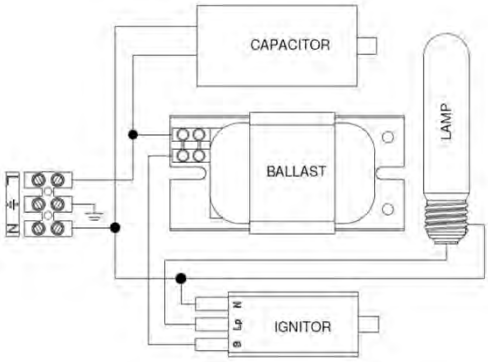
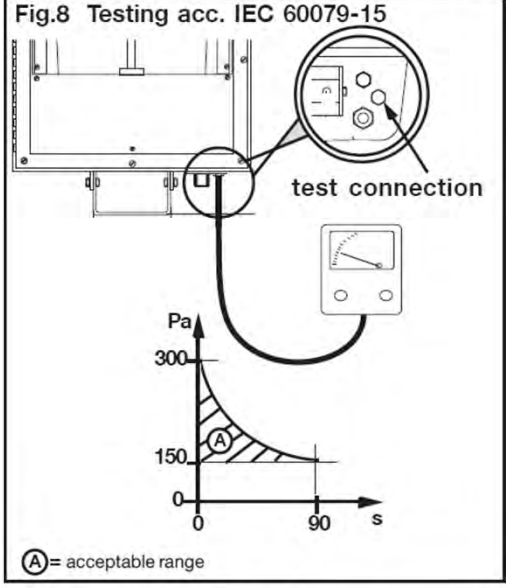


Fig.8 Testing acc. IEC 60079-15



(A)= acceptable range

Fig.9 Change door gasket

(1) = remove brackets for glas/gasket
Sparepart gasket : CHR0536

8. Putting into operation

Prior to putting the apparatus into operation, the tests specified in the relevant national regulations shall be carried out.
Insulation measurements may only be carried out between PE and the external conductor L1 (L2, L3) as well as between PE and N.
- Measurement voltage: Max. 1KV AC/DC
- Measurement current: Max.10mA
-The floodlight may only be operated when closed.
-It is generally recommended (see IEC/EN 60079-14) that you ensure the restricted breathing of the construction is not impaired during installation and that you test the restricted breathing properties before commissioning (see section 11).

9. Maintenance/Servicing

9.1 General

The relevant national regulations which apply to the maintenance/servicing of electrical apparatus in explosive atmospheres, shall be observed (IEC 60079-17).
The interval between maintenance depends upon the ambient conditions and the hours of operation. The recommendations given within IEC 60079-17 for recurring checks must be observed.

9.2 Checks

During maintenance, the parts affecting the level of protection must be checked in particular:
- Enclosure and glass panel for cracks and damage.
- Seals for damage.
-Terminal, screw glands and blanking plugs for secure fitting.

To maintain the light output, clean the protective glass and reflector with a damp cloth or a mild cleaning fluid.

If the flood light is opened for maintenance purposes or to replace the lamp, ensure that the "nR" properties are not affected.
This could be done by testing the restricted breathing properties as per section 11, for example. Alternatively, the cover seal can be completely replaced on site with a genuine spare part where possible (see section 10.2).

If this product is used in the combustible dust area, outside of enclosure must be cleaned on a regular basis to prevent accumulation of dust.

9.3 Lamp change

The suggested interval between lamp changes given by the lamp manufacturer should be followed.
Disconnect the power to the floodlight and allow the floodlight to cool completely.
See section 7.4 for notes on opening and closing the lamp. If the floodlight was previously in operation then wait 15 mins. before opening. Ensure that no hazardous atmosphere is present.
See section 7.6 for notes on inserting the lamp.
After replacing the lamp, ensure that the "nR" properties have not been affected.
This could be done by testing the restricted breathing properties as per section 11, for example.

10. Repair/Overhaul/ Modifications

10.1 General

The national regulations IEC/EN60079-19 have to be observed!
Repairs and overhaul may only be carried out with genuine Cooper Crouse-Hinds spare parts.
Before replacing or disassembling individual parts, observe the following:
Disconnect the power supply to the equipment before maintenance/repair.
Make sure that there is no explosive atmosphere when opening the equipment.
See section 7.4 for notes on opening and closing the lamp.
Only use original spare parts.
If the floodlight was previously in operation then wait 15 mins. before opening.
Repairs that affect the explosion protection, may only be carried out by Cooper Crouse-Hinds or a qualified electrician in compliance with the applicable national rules.
Modifications to the device or changes to its design are not permitted.
After carrying out repair or overhaul work, ensure that the "Ex nR" properties have not been affected.
This could be done by testing the restricted breathing properties as per section 11, for example.

Assistance may also be obtained through Cooper Electronic Technologies (Shanghai) Co., Ltd. Sales Service department,
955 ShengLi Road, Pudong Shanghai 201201.

10.2 Door seal replacement

Loosen the fixtures on the glass panel/seal (see Fig.8).
After doing this, the glass panel is no longer protected against falling out.
Take out the old seal.
Do not pull or compress the new seal during insertion.
Carry out the steps in reverse order to assemble.
Ensure that the "nR" properties are not affected during this procedure.
This could be done by testing the restricted breathing properties as per section 11, for example.

11. Testing the restricted breathing properties

All screw plugs and cable glands must be correctly tightened.
Overtightening the screw elements can destroy the thread.
Connect the testing equipment to the test connection on the flood light (see Fig.7).
Use the values specified in IEC 60079-15 for the test (see Fig.7).

12. Disposal/Recycling

When the apparatus is disposed of, the respective national regulations on waste disposal will have to be observed.

COOPER Crouse-Hinds

EG-Konformitätserklärung
EC-Declaration of conformity
CE-Déclaration de conformité

LCIE 11 ATEX 1014X
LCIE 11 ATEX 3101X

Wir / we / nous

Cooper Electronic Technologies (Shanghai) Co., Ltd.
No. 955 Shengli Road,
East Area of Zhangjiang High–Tech Park,
Shanghai 201201
China

erklären in alleiniger Verantwortung, dass die
hereby declare in our sole responsibility, that the
déclarons de notre seule responsabilité, que le

Explosion protected floodlight

Ⓔx II 2 G Ex nR II T…
Ⓔx II 2 D Ex tb IIIC T…°C IP66

Type NSSFMV…

auf die sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmen.
which are the subject of this declaration, are in conformity with the following standards or normative documents.
auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants.

Bestimmungen der Richtlinie Terms of the directive Prescription de la directive		Titel und / oder Nr. sowie Ausgabedatum der Norm. Title and / or No. and date of issue of the standard. Titre et / ou No. ainsi que date d'émission des normes.
94/9/EG:	Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen.	**EN 60079-0: 2009** **EN 60079-15: 2005** **EN 60079-31: 2009**
94/9/EC:	Equipment and protective systems intended for use in potentially explosive atmospheres.	
94/9/CE:	Appareils et systèmes de protection destinés à être utilisés en atmosphère explosibles.	
2004/108 EG: *2004/108 EC:* *2004/108 CE:*	Elektromagnetische Verträglichkeit *Electromagnetic compatibility* *Compatibilité électromagnétique*	**EN 61000-6-4: 2007** **EN 61000-6-2: 2005** **EN 55015: 2006+A1: 2007+A2:2009** **EN 61547: 1995+A1: 2000**

Shanghai, 2012.08.06

Place and date | *Head of quality department* | *Head of approval office*

QAN: Baseefa ATEX 5952

Zertifizierungsstelle *Notified Body of the certification* *Organes Notifié et Compétent*	**LCIE (0081)** **33 avenue du Général Leclerc,** **92260 Fontenay-aux-Roses**
Konformitätsbewertungsstelle *Notified Body to quality evaluation* Organes d'attestation de conformité	**Baseefa LTD (1180)** **Rockhead Business Park, Staden Lane,** **Buxton, Derbyshire SK17 9RZ**

Für den Sicheren Betrieb des Betriebsmittels sind die Angaben der zugehörigen Betriebsanleitung zu beachten.
For the safe use of this apparatus, the information given in the accompanying operating instructions must be followed.
Afin d'assurer le bon fonctionnement de nos appareils, priére de respecter les directives du mode d'emploi correspondent à ceux-ci.